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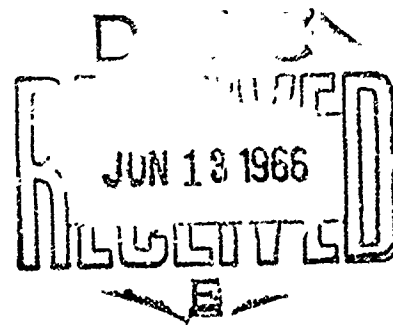DEPARTMENT OF PSYCHOLOGY · UNIVERSITY OF ILLINOIS · URBANA, ILL

## SOME EFFECTS OF CULTURAL TRAINING
## ON LEADERSHIP IN
## HETEROCULTURAL TASK GROUPS

MARTIN M. CHEMERS, FRED E. FIEDLER,
DUANGDUEN LEKHYANANDA, AND L. M. STOLUROW
UNIVERSITY OF ILLINOIS
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Martin M. Chemers, Fred E. Fiedler,

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Martin M. Chemers, Fred E. Fiedler, Duangduen Lekhyananda, and
Lawrence M. Stolurow
University of Illinois

The problem of cross-cultural research is not a new one. However, in
recent years, it has taken on a new perspective. The burgeoning of foreign
travel, foreign aid programs, and multi-national business and governmental
organizations has led to a rapid increase of encounters between individuals
with diverse cultural backgrounds. These cross-cultural situations have
frequently led to personal maladjustment as well as difficulties on the part
of participants to work together harmoniously and effectively (Lundstedt,
1963; Gardner, 1962; Hudson, et al., 1959; Kelman, 1963; Smith, et al., 1963).

The present study explores the effects of cultural heterogeneity on
creative problem solving groups, and tests the effects of leadership and
cultural training on task effectiveness and interpersonal relations.

Two areas of the social psychological literature are relevant to the
present study. The first area is that of research into the effects of
cultural heterogeneity on group functioning. Fiedler, et al., (1961) reported
an experiment involving Northern Dutch Calvinists and Southern Dutch Catholics.
He found that the task-motivated leaders (low LPC leaders, according to
Fiedler, 1962, 1963) perform better in groups in situations of stress created
by cultural heterogeneity or competition for leadership. The more considerate
psychologically close (high LPC) leaders who are motivated to have good
interpersonal relations were found to be more effective in the more relaxed
situation of homogeneous group membership and formal leadership.

Other investigators (Katz, et al., 1958; Rombauts, 1962-63) also reported that members of heterogeneous groups used more of their time and effort in creating cohesion and solidarity than did members of homogeneous groups. Triandis (1960a, 1960b), in discussing the effects of group heterogeneity, suggests that great differences in beliefs and values between individuals are likely to lead to poor communication, low interpersonal attraction, and low group effectiveness. Other investigators of heterocultural groups have emphasized attitudes and attitude change as a function of face-to-face interaction (Grundlach, 1950; Yarrow, et al., 1958; and Star, et al., 1958).

The second area is that of research into leadership and cultural training. Many writers (McCurdy and Eber, 1953; Lippitt and White, 1958; Foa, 1957) have been concerned with the effectiveness and satisfaction of groups led by various types of leaders. Numerous experiments have consistently shown two independent factors of leadership behavior which relate to two styles of leadership. One of these two factors shows high loadings on behaviors related to task or structuring functions (Stogdill and Coons, 1957; Hemphill, 1957; and Kahn and Katz, 1960). Fiedler (1958, 1963) has attempted to integrate the effects of leadership style and situational context on the performance of the small group. Fiedler, et al., (1961); Meuwese and Fiedler (1963); and Anderson (1964) found that the low LPC task-motivated leader performs better under conditions either very favorable or very unfavorable to the leader. The High LPC (considerate, relationship-motivated) leader performs best under moderately favorable group conditions. Low LPC leaders are generally more effective under conditions of stress such as those character-istic of heterogeneous group membership (Fiedler, 1966).

Research in leadership training has been concerned with two basic types of training. These involve either giving the leader new information (Triandis, et al., 1962) or giving him new skills (Maier and Hoffman, 1960). Neither has proved to be highly effective in increasing group productivity and satisfaction in laboratory groups. Anderson (1964) reported a unique approach in which he gave leaders of heterocultural groups training which was either complementary or redundant to their personal leadership style. Specifically, leaders who were originally task-motivated and controlling (low LPC) and leaders who were relationship-oriented and considerate (high LPC) were given lectures which were designed to reinforce their original leadership style (redundant) or to suggest leadership patterns different from their own (complementary). Leaders given complementary training had a somewhat higher level of performance on a creative task than did leaders given redundant training. Jansen and Stolurow (1962) used role playing to train clinical aides for employment in a custodial institution with a subculture at variance with their own. They found that this form of skill training for heterocultural interaction with members of a different subculture was effective in an unusual way; it reduced the tendency to develop unfavorable attitudes toward the job and job concepts.

## Purpose

The present study explores the implications of a particular type of cultural training to see if it diminishes the conflicts within small groups and increases their effectiveness when they have culturally heterogeneous membership. The experimental training method was designed to (a) give the trainee new culturally-relevant information, and (b) sensitize him to subtle cues so his behavior would become more appropriate to, and effective in, heterocultural encounters. In these ways it was designed to increase his skills in interpersonal situations.

## Method

The efficiency of the training methods was determined by objective measures of learning and by changes in leadership styles and attitudes.

### Hypotheses

Since this study was exploratory, hypotheses were general rather than specific, and the results guiding rather than testing. The major interests of the study were in (a) the efficiency of the training procedures, (b) the relationship between training and leadership style, and (c) the effects of training on attitude change.

Specifically, the hypotheses were as follows:

1. Individuals given self-instruction training in culturally-relevant cue discriminations (Experimental group) will perform better than those given culturally-relevant self-instructional training relating to information about the geography of the country (control group). Improved performance will be reflected in higher group productivity and a greater frequency of positive ratings on group atmosphere and member satisfaction scales.

2. The same type of culture training will have different implications for different types of leaders because individuals differ in leadership style and possess variegated skills and expectations. These effects should manifest themselves in a statistical interaction effect between productivity and satisfaction for training and leadership style.

3. More favorable attitudes can be expected from leaders given the culturally-relevant cue discrimination training and face-to-face group interaction than from those given culturally irrelevant information training and face-to-face group interaction.

4. The effects of culturally-relevant cue discrimination training will
be greatest on tasks dealing with cultural conflict. Thus a significant
task effect is expected for those trained in culture-cue discrimination.

## Subjects

American. Twenty-eight members of the ROTC Special Forces Company at
the University of Illinois volunteered to serve as the American participants
in this experiment. One man later dropped out because of illness. Three
more Ss were eliminated at random from the analyses requiring an equal number
of Ss per cell of the experimental design. However, 27 Ss were used in all
correlational analyses.

Arab. Fourteen men who were members of the University of Illinois Arab
Student Association participated as group members. They were chosen from the
31 volunteers who responded to the 75 letters sent to Arab students on campus.

## Design and Procedures

Preliminary testing of leadership style. The American Ss, who served as
group leaders, were administered Fiedler's "esteem for least preferred co-
worker" (LPC) scale. LPC scores were obtained by asking the men to think of
all the co-workers they had ever had and to describe the one individual with
whom they could work least well. Thus, the least preferred co-worker would
not need to be someone with whom the rater worked at the time of being tested.
In fact, these scales were here administered before the teams were formed.
The LPC scale consisted of eight-point graphic scale items modeled after the
Semantic Differential (Osgood, 1957), and contained 20 items such as the
following:

Confident    :__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__: Not Confident

Self-assured:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__: Not Self-assured

The LPC score is the sum of the twenty item scores, with the most favorable scale position counted 8 and the least favorable scale position counted 1.

The LPC score is best interpreted as a dynamic trait which results in different specific behaviors as the situation changes. The individual who perceives his least preferred co-worker in a relatively favorable manner (high LPC) gains satisfaction and self-esteem from successful interpersonal relations. The person who perceives his least preferred co-worker in a very unfavorable manner (low LPC) gains satisfaction and self-esteem from successful task performance. High and low LPC leaders thus seek to satisfy different needs in the group situation. The LPC scores were used to dichotomize the group into high and low LPC leaders for this study.

Preliminary testing of attitudes. In order to explore the effects of training and group interaction on interpersonal attitudes, a Behavioral Differential (BD) was employed. This instrument employed stimulus persons having all possible combinations of the characteristics (a) Arab, American; (b) male, female; (c) high school graduate, college graduate. For example, one stimulus was an Arab female college graduate. The reactions of the Ss toward these stimulus persons were obtained on three Behavioral Differential factors isolated by Triandis (1964). These were social distance (e.g., exclude from the neighborhood); formal social acceptance (e.g., admire the ideas of, cooperate in political campaign); and subordination (e.g., be commanded by, obey).

The American leaders were asked to report their attitudes three times during the experiment (before and after training, and after the group meeting). Their attitude scores were the sum of their ratings on the fifteen scales.

Training. The group of leaders was randomly dichotomized into a control group, who received geographic information by means of a self-instructional training program, and an experimental group, who received "culture assimilator" training.

## The Culture Assimilator

The concept of the "Culture Assimilator" was originated by Stolurow (1965a). It is a self-instructional program with the primary objectives of teaching (a) verbal discriminations among culturally relevant cues and (b) semantic generalization within culturally relevant concepts. In constructing a Culture Assimilator, the first concern is finding reliable and valid sets of culturally relevant materials requiring cue discrimination and concept generalization for the target culture, i.e., the Arab culture. Two methods were used to get materials. The first was the critical incident method (Flanagan, 1949). Individuals who had spent considerable time in the target culture were asked to report encounters which caused them to alter their perception of the culture. The incidents were supplemented by relevant data obtained from a review of sociological and anthropological literature. Additional data were obtained from discrepancies in the ratings of American and Arab students on a questionnaire. Large differences in the ratings on any particular problem area (i.e., filial relations, care of the aged, divorce, etc.) were taken to indicate potential areas of conflict or misperception between members of the two cultures.

Areas of social relations which in the above ways were found to have implications for cultural training in cue discrimination were chosen as the content areas for the Arab Culture Assimilator. These areas were represented in 55 problem episodes. In a problem episode the trainee was called upon to assess the causes of misperception or conflict and was immediately informed of the significance of his choice in terms of basic cultural concepts. The main content areas of the three hour training program centered on (a) the role of women, (b) the importance of religion in the Middle East, and (c) interpersonal skills in small group interaction. The training material consisted of a self-instructional program based upon principles of idiographic programming (Stolurow, 1965a).

Control Training Program. In order to control such factors as the Hawthorne effect, a self-instructional program identical in form as with the Culture Assimilator was constructed for the control Ss. This program was equal in length to the Culture Assimilator.

Training Procedure. The testing and training sessions took place on four consecutive nights. The first session was devoted to the administration of a pre-test to determine the Ss' beginning knowledge of Arab culture and geography, as well as the first administration of the Behavioral Differential to measure attitudes toward members of the other culture.

The second and third sessions were used for the administration of the Culture Assimilator and Geography programs to the control and experimental groups, respectively. The program was designed to take, on the average, one and one-half hours per session; however, each individual was allowed to proce. at his own speed.

The fourth session consisted of a re-administration of both the test covering the training program material to determine amount learned, and the Behavioral Differential to determine attitude changes.

Group Tasks. After completion of the training period, each American S was appointed the leader of a three-man group composed of the American leader and two Arab Ss. Each group then worked for two hours, during which time they performed three tasks. These were, in order, an unstructured cooperative, a structured cooperation, and a negotiation task.

The unstructured cooperative task entailed the writing of a communication directed to Arab villagers. The communication was designed to encourage the villagers to allow their women to work in a factory to be built nearby. The American played the role of a company representative, and the Arab Ss served as his expert advisors. Instructions stressed the need for cooperation of all group members to produce a satisfactory solution.

The structured cooperative task consisted of solving a mathematico-geometrical puzzle. A road map was to be traversed, touching every point on the map in the shortest possible time. Time between points on the map varied, depending on the route taken.

The negotiation task called for the Ss to decide on the percentages of Arab and Moslem workers to be employed in an Arab-American mining venture in an Arab country. The American and Arab Ss were given conflicting roles, in which the Arab Ss were instructed to seek the highest possible percentage of Arabs and Moslems, while the American Ss were to press for a non-discriminatory hiring policy based solely on merit.

Twenty minutes were allowed for each task. The task order was constant over all sessions. After each task, the Ss filled out post-session quesionnaires. The leader's questionnaire asked him to assess his own performance, as well as member relations and general group atmosphere. The Arab Ss assessed the leader's performance, leader-member relations, and general group atmosphere. At the end of the group session, the American Ss received the final administration of the Behavioral Differential scale.

Each Arab S served in four such task sessions. The order of the leaders with whom they served was counterbalanced for training and leadership style.

## Results and Discussion

### Effectiveness of Training

Actual training time varied between one and two hours per session. A test consisting of a number of items to measure prior familiarity with the material was included in both the culture and geography programs. This test was administered to all trainees before and after training. Each group improved on the material to which it was exposed as shown in Table 1.

### Evaluation of Task Products

Unstructured Cooperative Task. The product of the unstructured task was a written communication designed to prevail upon Arab villagers to permit the employment of Arab women as factory workers. These communications were rated by three Arab and three American judges who were not subjects in the study. The ratings were made on ten scales measuring feasibility, creativity, acceptability, completeness, persuasiveness, approach, quality of writing, degree to which the solution centers on th problem described in the task instructions, degree to which the solution represents both Arab and American viewpoints, and the degree to which the communication reflects the ideas of one culture more than the other. Inter-rater reliability for the six judges was .84.

Factor analysis of the ratings yielded two factors. One factor included only the scale measuring the degree to which the communication included a greater number of Arab or American ideas. The other, more prominent, factor included the other nine scales and represents an evaluative dimension of the general worth and acceptability of the product.

TABLE 1

Improvement of Trained Groups on Pre- and Post-Testing

| Group | Test | $\Sigma Di$ | f | p |
|-------|------|------|------|------|
| Culture Assimilator Training | Culture | 33 | 6.28 | .001 |
| | Geography | -4 | -.50 | NS |
| Geography Training | Culture | 2 | .32 | NS |
| | Geography | 74 | 10.29 | .001 |

Note: Di = Number of correct answers on Test 2 - Number of correct
answers on Test 1

Structured Cooperative Task. This task consisted of finding the shortest route connecting several cities on a road map, making use of variable routes and times between points. Performance on this task is objectively measurable in terms of the total routing time used to cover the map. The best routes have the lowest overall times; a low score on this task denotes good performance.

Negotiation Task. The negotiation task required group members to decide the percentages of Arab and Moslem workers to be employed in an Arab-American enterprise in an Arab nation.

The negotiated solutions were recorded on standardized sheets. Each solution was both rated and ranked by three American and three Arab judges on: (1) its agreement with the Arab standard; (2) its agreement with the American standard; and (3) its feasibility. Inter-rater reliability was .55 for all ratings, and .62 for all rankings.

The combination of these ratings and rankings yielded seven scores, as follows:

1. Rating on the Arab standard

2. Rating on the American standard

3. Rating of feasibility of the solution

4. Product of the three ratings

5. Ranking on Arab standard

6. Ranking on American standard

7. Product of the two rankings.

### Evaluation of Group Climate

Group atmosphere and leader-member relations were measured by post-session questionnaires described above. The ratings of these questionnaires were factor analyzed, and the relevant factors grouped into three scales.

Leader's report. Leader's report included the scales which the leader filled out, assessing his feelings about his own behavior in the preceding task session. The three factors which make up the scale are:

1. Leader's report on his own effectiveness

2. Assessment of the leader-follower relationship

3. Perceived heterogeneity of the group members.

Member's report included the scales on which the Arab group members rated the effectiveness of the American leaders. The five factors of this scale are evaluations of:

1. The leader's task performance

2. Esteem for the leader

3. Leader's cultural knowledge

4. The American leader vs. a hypothetical Arab leader

5. Leader's understanding and interest in the group members.

Group Atmosphere. The combined rankings of the leaders and members make up the scores on this scale. This measure includes three factors:

1. Enjoyment of the group situation

2. Perceived heterogeneity of group members

3. Stressfulness of the task situation.

## Effects of Culture Assimilator Training

An analysis of variance was performed on the group performance and group climate scores to test hypothesis 1. The first hypothesis predicted that groups with leaders who had received the Culture Assimilator training would perform better and show better group climate than would groups with leaders who had received the culturally irrelevant geography training.

Productivity. The differences between the means for culture and geography trained groups on task performance scores are shown in Table 2. Trend effects are also shown in this table. A plus sign indicates a higher level

TABLE 2

Trend Effects in Group Productivity

| Scale | Culture | Geography | Trend | F-score | p |
|---|---|---|---|---|---|
| I. Unstructured cooperative task: | | | | | |
| (a) overall acceptability ratings | 29.92 | 29.80 | + | .0027 | NS |
| (b) inclusion of American and Arab ideas | 32.08 | 28.17 | + | 1.63 | NS |
| II. Structured cooperative task: | | | | | |
| (a) time to complete course | 60.50 | 65.33* | + | 1.88 | NS |
| III. Negotiation task: | | | | | |
| (a) rating on Arab standard | 6.00 | 6.22* | + | 0.28 | NS |
| (b) rating on American standard | 5.84 | 5.14 | + | 3.69 | NS |
| (c) rating on feasibility | 5.55 | 5.26 | + | 1.04 | NS |
| (d) ranking on Arab standard | 12.44 | 13.51* | + | 0.63 | NS |
| (e) ranking on American standard | 16.34 | 13.49 | + | 3.87 | .15 |
| (f) product of three ratings | 218.44 | 205.92 | + | 0.67 | NS |
| (g) product of two rankings | 183.89 | 161.61 | + | 1.75 | NS |

+ In predicted direction

* Low score denotes higher level of performance

of performance for the culture trained groups. Although the differences
between the means did not reach significant probability levels, the trend
effects, which were all in the expected direction, show a generally higher
level of performance for the culturally trained leaders.

Group climate and leader-member relations. These measures of the
groups' atmosphere and ability to work together comfortably were expected to
show better performance for the leaders who received the Culture Assimilator
training.

The trend effects for these measures are shown in Table 3.

Once again, the mean differences were not large, but consistently in the
expected direction. The leaders who were trained with the culture assimilator
were seen as somewhat more understanding, culturally knowledgable, friendly
and effective. The groups of such leaders similarly were seen as somewhat
more enjoyable and less stressful. The leader's evaluation of his own
behavior showed a slight reversal in this trend. Such an effect may be traced
to the culturally trained leader's increased awareness of the ramification
of his behavior in a heterocultural group. The leader's low rating of his
own behavior among culturally trained leaders is not supported by the high
members' ratings, nor by the high productivity measures.

While differences reported in these tables fail to reach an acceptable
significance level, the overall consistency of the results provide support
for the first hypothesis.

Effects of Leadership Style

Hypothesis 2 concerns the performance of High and Low LPC leaders, that
is, the permissive, considerate, person-oriented vs. the directive, controlling
task-oriented leader. Differences were expected in performance, attributable
to leadership style, as well as interaction between cultural training and
leadership style.

TABLE 3

Trend Effects in Leader-Member Relations

| Scale | Culture | Geography | Trend | F-Score | p |
|---|---|---|---|---|---|
| I. Leader's report on: | | | | | |
| (a) leader's effectiveness | 23.28 | 23.83 | − | 0.11 | NS |
| (b) leader-follower relations | 20.53 | 20.31 | + | 0.06 | NS |
| (c) perceived heterogeneity of group members | 7.47 | 7.81 | − | 0.88 | NS |
| II. Members' report on: | | | | | |
| (a) leader's understanding and interest | 15.46 | 14.37 | + | 3.94 | <.05 |
| (b) leader's performance | 13.57 | 13.11 | + | 0.44 | NS |
| (c) favorability of leader's personality | 28.67 | 27.12 | + | 1.93 | NS |
| (d) leader's cultural knowledge | 4.93 | 4.67 | + | 0.74 | NS |
| (e) leader's favorableness of Arab culture | 4.33 | 4.97* | + | 0.21 | NS |
| III. Group Atmosphere (leaders & members) | | | | | |
| (a) stressfulness of situation | 24.06 | 23.63 | + | 0.50 | NS |
| (b) perceived heterogeneity | 6.88 | 6.00 | + | 0.07 | NS |
| (c) enjoyment of group | 23.19 | 22.06 | + | 3.53 | <.10 |

+ Indicates predicted direction

* Lower score denotes better performance

Productivity. Mean task rating scores for the performance of High and Low LPC leaders are shown in Table 4.

Trend effects are indicated in this table. High or Low refers to the type of leader showing the better performance. Significant scores and trend effects combine to highlight the relationship between leadership style and performance on the three tasks. The Low LPC leader showed greater productivity on the two cooperative tasks, unstructured and structured, while the High LPC leader was generally higher on measures of performance in the negotiation task situation.

While the directive, controlling style of the Low LPC leader was quite effective on the tasks in which he had full cooperation from his group members, such a leadership style may have proved too threatening and over-bearing on a negotiation task in which the various group members hold opposing views.

Group climate and leader-member relations. Table 5 presents a consistent picture of the relationship between leadership style and member relations. Significant effects (Members' Report) and trend effects show the considerate High LPC leaders to be rated higher by their members and to have a higher level of group atmosphere.

The only contradiction to the trend lies in the leader's evaluation of his own behavior. These effects parallel those shown for the culturally trained leaders. Although his group members rate him highly, the High LPC leader, who is motivated to have good interpersonal relationships, sees his behavior as less adequate than the task-oriented Low LPC leader. This may again be due to the fact that the High LPC leader's orientation makes him more sensitive to the effects of his behavior and less satisfied with his performance.

* Lower score denotes better performance

TABLE 4

Leadership Style and Group Productivity

| Scale | High LPC Mean | Low LPC | Trend Toward High or Low LPC Leaders | F | R |
|---|---|---|---|---|---|
| I. Unstructured cooperative: | | | | | |
| (a) overall rating | 27.12 | 32.60 | Low | 5.90 | .10 |
| (b) American and Arab ideas | 29.33 | 30.92 | Low | 0.27 | NS |
| II. Structured: | | | | | |
| (a) mean time | 64.67 | 61.17* | Low | 0.99 | NS |
| III. Negotiation: | | | | | |
| (a) rating on Arab standard | 6.03 | 6.19* | High | 0.17 | NS |
| (b) rating on American standard | 6.01 | 4.97 | High | 8.04 | .05 |
| (c) rating on feasibility | 5.58 | 5.22 | High | 1.57 | NS |
| (d) ranking on American standard | 12.65 | 13.30* | High | 0.23 | NS |
| (e) ranking on Arab standard | 16.48 | 13.36 | High | 4.63 | .10 |
| (f) product of three ratings | 218.22 | 206.14 | High | 0.62 | NS |
| (g) product of two rankings | 166.89 | 178.61 | Low | 0.48 | NS |

* Low score denotes better performance

TABLE 5

Leadership Style and Member Relations

| Scale | High LPC | Low LPC | Trend High vs. Low LPC | F-Score | p |
|---|---|---|---|---|---|
| **I. Leader's report on:** | | | | | |
| (a) leader's effectiveness | 23.28 | 23.83 | Low | 0.12 | NS |
| (b) leader-follower relations | 20.53 | 20.56 | High | 0.06 | NS |
| (c) perceived heterogeneity | 7.47 | 7.81 | Low | 0.88 | NS |
| **II. Members' report on:** | | | | | |
| (a) leader's understanding and interest | 15.57 | 14.26 | High | 5.72 | .025 |
| (b) leader's performance | 14.64 | 12.04 | High | 14.09 | .01 |
| (c) esteem of leader | 29.18 | 23.61 | High | 5.37 | .025 |
| (d) leader's cultural knowledge | 5.00 | 4.60 | High | 1.73 | NS |
| (e) favorableness of leader from own culture | 4.82 | 4.99* | High | 0.31 | NS |
| **III. Group atmosphere (leaders and members)** | | | | | |
| (a) stressfulness of situation | 22.93 | 22.31 | High | 1.10 | NS |
| (b) enjoyment of group | 24.13 | 23.56 | High | .90 | NS |
| (c) perceived heterogeneity | 6.88 | 6.80 | High | 0.07 | NS |

* Low score denotes better performance

In review, it is important to note that the Low LPC leaders score better on the measures of productivity, while the High LPC leaders score higher on measures of group atmosphere and leader-member relations.

Interaction of leadership style and training. Hypothesis 2, in addition to predicting differences in performance due to leadership style, predicted interactions of leadership style with training. These results are shown in Table 6. This table presents the mean productivity scores for trained and untrained, High and Low LPC leaders.

On the two cooperative tasks, the Low LPC leaders were generally more effective. However, the High LPC leaders, who had received cultural training, approached the level of performance of the generally superior Low LPC leaders.

On the negotiation task, the High LPC leaders generally scored higher, but the culturally trained, Low LPC leaders approached, and even exceeded the level of the High LPC leaders. The geography trained Low LPC leader maintained a considerably poorer level of performance. Figure 1 graphically portrays this relationship with one measure selected from Table 6.

The measures of group climate and leader-member relations showed another set of interactions which complement those of the productivity measures. Table 7 shows the mean scores for the four types of leaders. High LPC leaders tended to have higher scores on measures of group climate and member relations. However, the Low LPC leaders who received Culture Assimilator training achieved levels approaching and equal to those of the High LPC leaders.

Two of the interaction effects which reached significance are used to represent these interaction trends in Figure 2.

In summary, the culturally trained leader, regardless of leadership style, was found to achieve a generally high level of performance and rapport. The High LPC leader who received cultural training seemed to gain skills or information which enabled him to perform better than his geography

TABLE 6

Groups Productivity Mean Scores

| Task | Culture Trained | | Geography Trained | |
|------|------|------|------|------|
| | High LPC | Lo LPC | High LPC | Lo LPC |
| I. Unstructured (cooperative) | | | | |
| A. Overall rating | 28.32 | 31.52 | 25.92 | 33.68 |
| B. American & Arab ideas | 32.33 | 31.83 | 26.33 | 30.00 |
| II. Structured (cooperative) | | | | |
| A. Time | 61.67 | 59.33 | 67.67 | 63.00+ |
| III. Negotiation Task | | | | |
| A. Rating on Arab standard | 5.72 | 6.28 | 6.33 | 6.10+ |
| B. Rating on American standard | 6.17 | 5.52 | 5.85 | 4.43 |
| C. Rating on feasibility | 5.55 | 5.55 | 5.62 | 4.98 |
| D. Ranking on Arab standard | 12.02 | 12.87 | 13.28 | 13.73+ |
| E. Ranking on American standard | 16.70 | 15.98 | 16.25 | 10.73 |
| F. Product of 3 ratings | 212.58 | 224.30 | 223.85 | 187.98 |
| G. Product of 2 rankings | 172.40 | 195.38 | 161.38 | 161.83 |

+ Low scores denote better performance

FIGURE 1

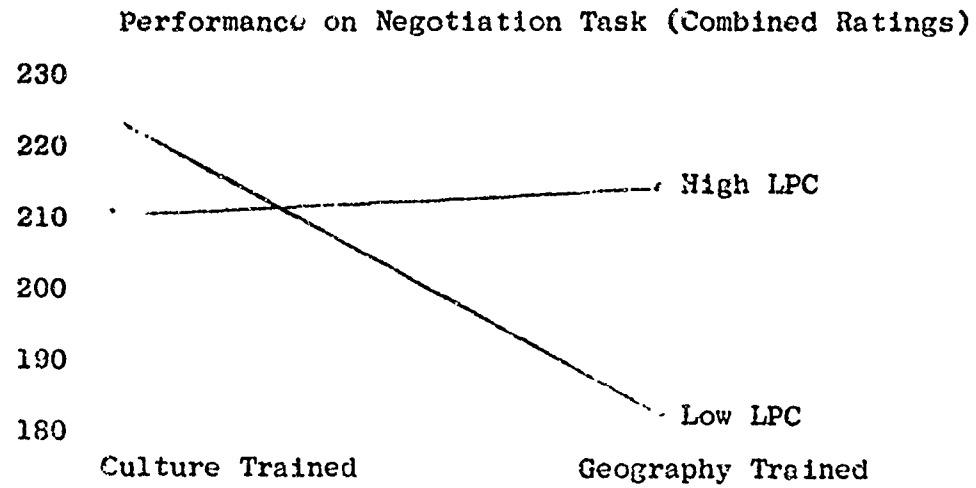Interaction of Training and Leadership Style



Performance on Negotiation Task (Combined Ratings)

TABLE 7

Leader-Member Relations Mean Scores

| Scale | Culture Trained | | Geography Trained | |
|---|---|---|---|---|
| | High LPC | Lo LPC | High LPC | Lo LPC |
| **I. Leader's Report on:** | | | | |
| A. Leader effectiveness | 21.33 | 25.22 | 24.72 | 22.94 |
| B. Leader-follower relations | 19.78 | 21.28 | 20.78 | 19.83 |
| C. Perceived Heterogeneity | 7.83 | 7.11 | 7.56 | 8.06 |
| **II. Members' Report on:** | | | | |
| A. Leader's understanding & interest | 15.67 | 15.25 | 15.47 | 13.28 |
| B. Leader's performance | 14.53 | 12.61 | 14.75 | 11.47 |
| C. Esteem for leader | 28.86 | 28.47 | 29.50 | 24.75* |
| D. Leader's cultural knowledge | 5.19 | 4.67 | 4.81 | 4.53 |
| E. Leader's favorableness of Arab culture | 4.72 | 4.94 | 4.91 | 5.02+ |
| **III. Group atmosphere:** | | | | |
| A. Stressfulness of situation | 23.28 | 23.09 | 22.59 | 21.52 |
| B. Enjoyment of group | 23.56 | 24.56 | 24.70 | 22.56** |
| C. Perceived heterogeneity | 6.76 | 7.00 | 7.00 | 6.59 |

\* - $p < .05$

\*\* - $p < .01$

+ - Low scores denote better performance

## FIGURE 2

### Training-Leadership Interactions on Group Climate

A. Member's Esteem for Leader



```
30
                                              · High LPC
29    ·_  _____
28
27
                                                        p < .05
26
^5
24                                      ·. Low LPC
   Culture trained              Geography trained
```
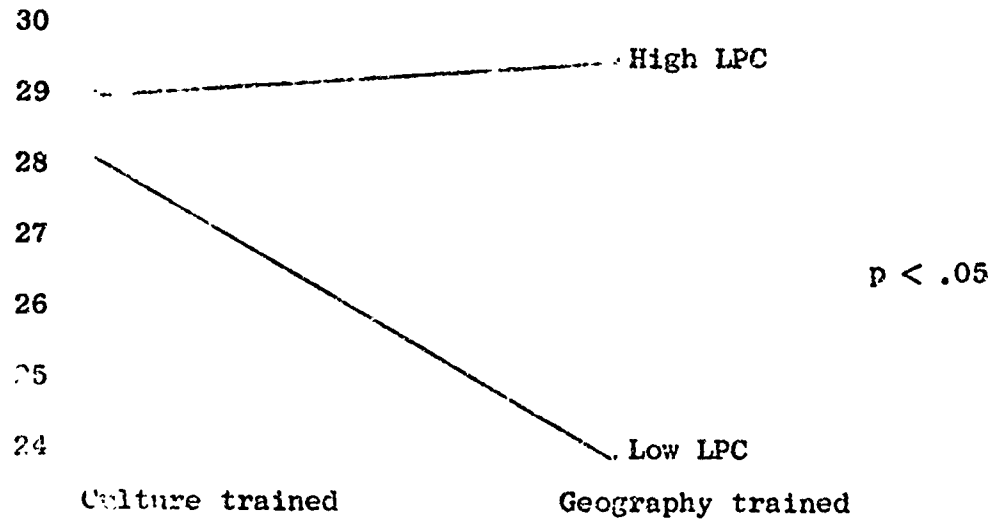
B. Leader's and Members' Enjoyment of Group



```
25
         ·  ·                              · · High LPC
24
23                                                      p < .01
22                                      ·~ Low LPC
21
   Culture trained              Geography trained
```
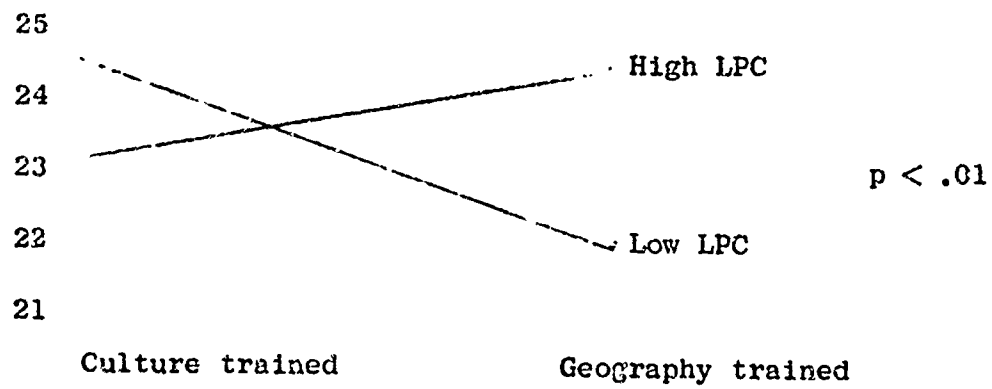
trained counterpart. Likewise, culturally trained Low LPC leaders showed

improvement on the measure of interpersonal relations, not equalled by the

geography trained Low LPC leaders. Each type of leader gained in the area

in which they were the weakest. These findings are similar to those of

Anderson (1964),who found that leaders benefitted from training which was

complementary to their original leadership style.

## Task Effects

In reviewing the already described analyses, effects attributable to

cultural training, leadership style, and leadership training interaction, were

found on all three tasks. These results do not support Hypothesis 3 which

predicted no differences between trained and untrained leaders on the

culturally irrelevant structured task.

On the measures of group climate and leader-member relations, an inter-

esting relationship between tasks is seen. Due to certain problems of

design and analysis, it was not possible to vary the order in which the

tasks were administered. The mean scores on the leader-member relations

and group climate measures are shown in Table 8.

The tasks were administered in the following order: unstructured

cooperative; structured cooperative; and negotiation. There is a trend of

increasingly positive intragroup relations over time. This effect is

probably due to the relaxation of tension as a function of the time the

group is together. It transcends the expected positive effects of cooperation

on group atmosphere.

## Attitude Change

Hypothesis 4 predicted a greater positive attitude change for Ss receiving

the Culture Assimilator training. It was also hypothesized that this increase

would be found after the face-to-face heterocultural interaction.

TABLE 8

Task Effects in Leader-Member Relations

Means

| Scale | Unstructured Coop. | Structured Coop. | Negotiation | F | P |
|---|---|---|---|---|---|
| I. Leader's report on: | | | | | |
| (a) Leader's effectiveness | 22.38 | 23.33 | 24.96 | 3.00 | <.10 |
| (b) Leader-follower relationship | 19.42 | 20.75 | 21.08 | 1.35 | NS |
| (c) Group heterogeneity | 7.25 | 6.50 | 7.17 | 5.89 | <.01 |
| II. Member's report on: | | | | | |
| (a) Leader's performance | 12.85 | 13.44 | 13.73 | 0.55 | NS |
| (b) Leader's personality | 27.08 | 27.96 | 28.65 | 0.67 | NS |
| (c) Leader's cultural knowledge | 4.19 | 4.90 | 5.31 | 4.60 | <.025 |
| (d) Leader of other culture | 4.75 | 5.02 | 4.94 | 0.28 | NS |
| (e) Leader's understanding and interest | 14.71 | 14.79 | 15.25 | 0.38 | NS |
| III. Group Atmosphere: | | | | | |
| (a) Enjoyment of group | 23.29 | 23.86 | 24.38 | 1.07 | NS |
| (b) Perceived heterogeneity | 6.67 | 6.97 | 6.88 | 0.32 | NS |
| (c) Situation stressfulness | 21.35 | 23.33 | 23.18 | 4.50 | <.025 |

The results shown in Figure 3 tend to support these predictions. Before training the attitudes towards Arabs of the control and experimental groups were quite similar, as expected. After training, the attitudes of the group which received cultural training remained the same, while the group which received geography training became significantly less favorable (p < .05). This effect of training is similar to that obtained by Jansen and Stolurow (1962). Role playing tended to retard the development of unfavorable attitudes. After training, the attitudes of the culturally trained and geography trained leaders were not significantly different from one another.

It should be recalled that the geography training made the leaders less favorable toward the Arabs. After the heterocultural group session, all American leaders became significantly more favorable toward Arabs (p < .01). This brought the geography trained leaders back to their original position and level of attitudes. The attitudes of the culture trained leaders was significantly more positive than when they began the experiment (p < .01).

These significant changes over a short time period are contrary to the findings of many researchers (e.g., Yarrow, et al., 1958), who maintain that significant attitude changes require long periods of face-to-face interaction. The results in the present experiment may be due to the effects of the training materials or the ability to achieve a warm relationship and thus change attitude. We have as yet no information about the degree to which these attitudes will endure.

It was further hypothesized that the leader's favorable attitudes towards Arabs also saw their Arab co-workers are similar to Americans (p < .05). Moreover, the more favorable the leader's original attitude toward Arabs, the more successful he was in persuading his Arab group members to accept American standards on the negotiation task (r = .432, p < .05), and ..e higher his overall group product was ranked (r=.430, p < .05).

FIGURE 3

Comparison of Attitudes of the American Leaders from the Two

Training Conditions
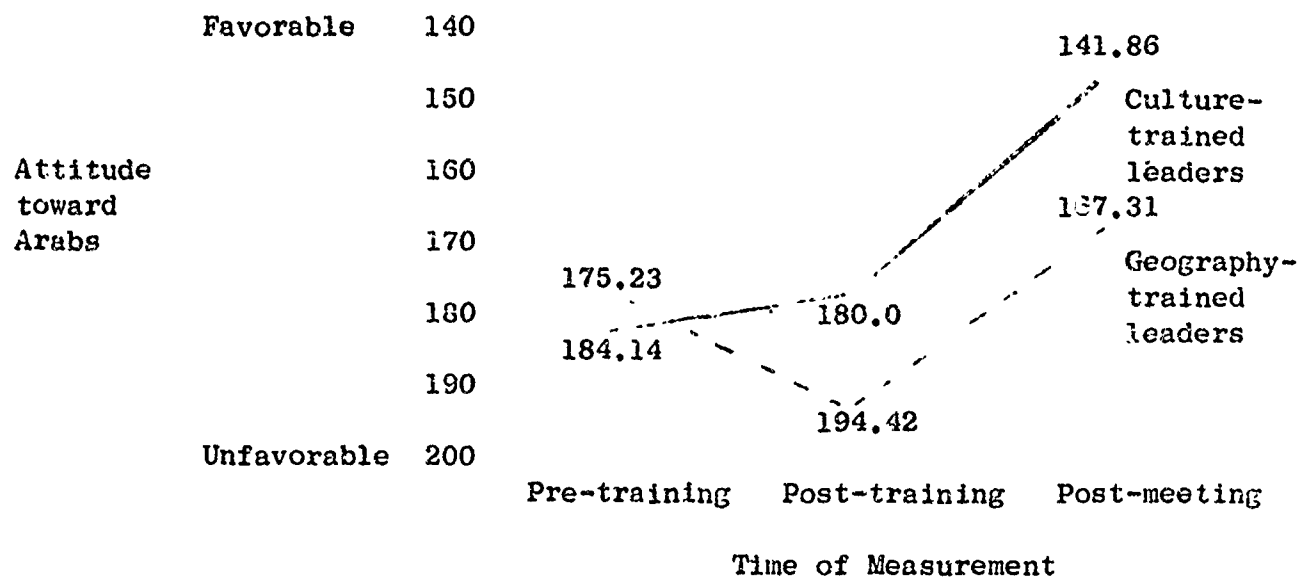
The relationships between attitudes and performance on the other two tasks were not significant. This evidence suggests that a fairly long period of group interaction was needed before the attitudes of the leaders could be fully expressed and detectable by other group members.

## Unanticipated Effects

Team effects. The twelve Arab Ss were grouped into six two-man teams. Each team saw one leader of each of the four types (culture trained and untrained, High and Low LPC). Significant F-scores were found for the effects of the various teams on group productivity. The highly significant F-scores emphasize the importance of the particular Arab team in determining the productivity of the group.

## Conclusions

It must be stressed that the data of this study should be interpreted with caution. The effects, while overwhelmingly in the expected direction, are still only trends. These effects reach significant probability levels in only a few cases. Further, due to the exploratory nature of the present study, the approach was necessarily somewhat restricted. The focus of the training program was on women's role and on religion.

The effects of the Arab teams on performance and the carry-over effects of using Arab Ss repeatedly would tend to depress any effects caused by training or leadership style. Thus, it would be expected that training effects would show up more strongly in future studies in which the effects of carry-over were removed.

The overall conclusion to be drawn, considering all factors, is one of qualified support for the present methods of cultural training. As an exploratory study, this experiment has fulfilled a very useful purpose in confirming the efficacy of the approach and pointing out the important areas and questions to be investigated and answered in future research.

Chief among the present findings are those which indicate the interesting relationships between cultural training and personal leadership style, as well as the profound effects of attitudes on group atmosphere and performance attained by only three hours of training.

## Summary

An exploratory study, investigating the use of cultural training programs to increase leader effectiveness in heterocultural problem solving groups was conducted. Twenty-four ROTC cadets, enrolled in a voluntary Special Forces training company, served as Ss. Twelve Arab foreign students, enrolled at the University of Illinois, also participated.

The 24 American Ss were divided into two equal groups on the basis of their leader attitudes as assessed by the Least Preferred Co-worker (LPC) score. These groups were then further dichotomized for purposes of training, with 12 men receiving three hours of programmed instruction in Arab culture, while the other 12 received a culturally irrelevant program on Mid-East geography, which was similar in length and form to the culture program.

After training, the American Ss were appointed the leaders of groups composed of themselves and two Arab Ss. Each team of two Arabs served four times with each type of leader and level of training, counterbalanced for order. Each group then worked on three tasks, a cooperative unstructured, cooperative structured, and negotiation task.

A generally higher level of performance was obtained for culturally trained leaders on measures of both productivity and leader-member relations. Differences were also found between permissive, human relations-oriented leaders as opposed to directive, controlling leaders. Interaction effects between cultural training and leadership style show that leaders with differing leadership styles benefit from training in specifiable ways. Positive attitude changes occurred as a result of cultural training and face-to-face heterocultural interaction.

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**13 ABSTRACT**

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